

Two new species of *Diomea* Walker (Lepidoptera, Noctuidae) from Japan, Taiwan and Myanmar

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Abstract *Diomea insulana* sp. n. from Japan and Taiwan and *Diomea ferrosticta* sp. n. from Myanmar are described and illustrated. *Corsa* Walker, 1858 is sunk as a synonym of *Diomea* Walker, 1858, and *Bleptina petrina* Butler, 1879, so far placed under *Corsa*, is transferred into *Panilla* Moore, 1885.

Key words *Diomea*, *Corsa*, *Panilla*, *Diomea livida*, *Diomea jankowskii*, *Corsa petrina*, new species, synonym, South East Asia, taxonomy.

Diomea rotundata Walker, 1858 and *Corsa lignicolora* Walker, 1858 are the type species by monotypy of *Diomea* Walker, 1858 and *Corsa* Walker, 1858, respectively. Kobes (1983) described *Zigera suvarnavipae* from Sumatra, and Sugi (1992) transferred it into *Diomea* in a check list of the Taiwanese Noctuidae. Sugi's (1992) treatment seems to be correct, because the male genitalia of *suvarnavipae* have simple valvae with also simple harpes similar to those of *D. rotundata*. As illustrated here, recently I found that *suvarnavipae* is a close relative of *Corsa lignicolora* (Fig. 9), and I pointed out that *Diomea* and *Corsa* become synonymous with each other (Yoshimoto, 1994). The generic names *Diomea* and *Corsa* were published in Walker's same work at the same date, and here as an act of the first reviser I select *Diomea* as a valid name of this genus, of which synonymy is summarized as follows.

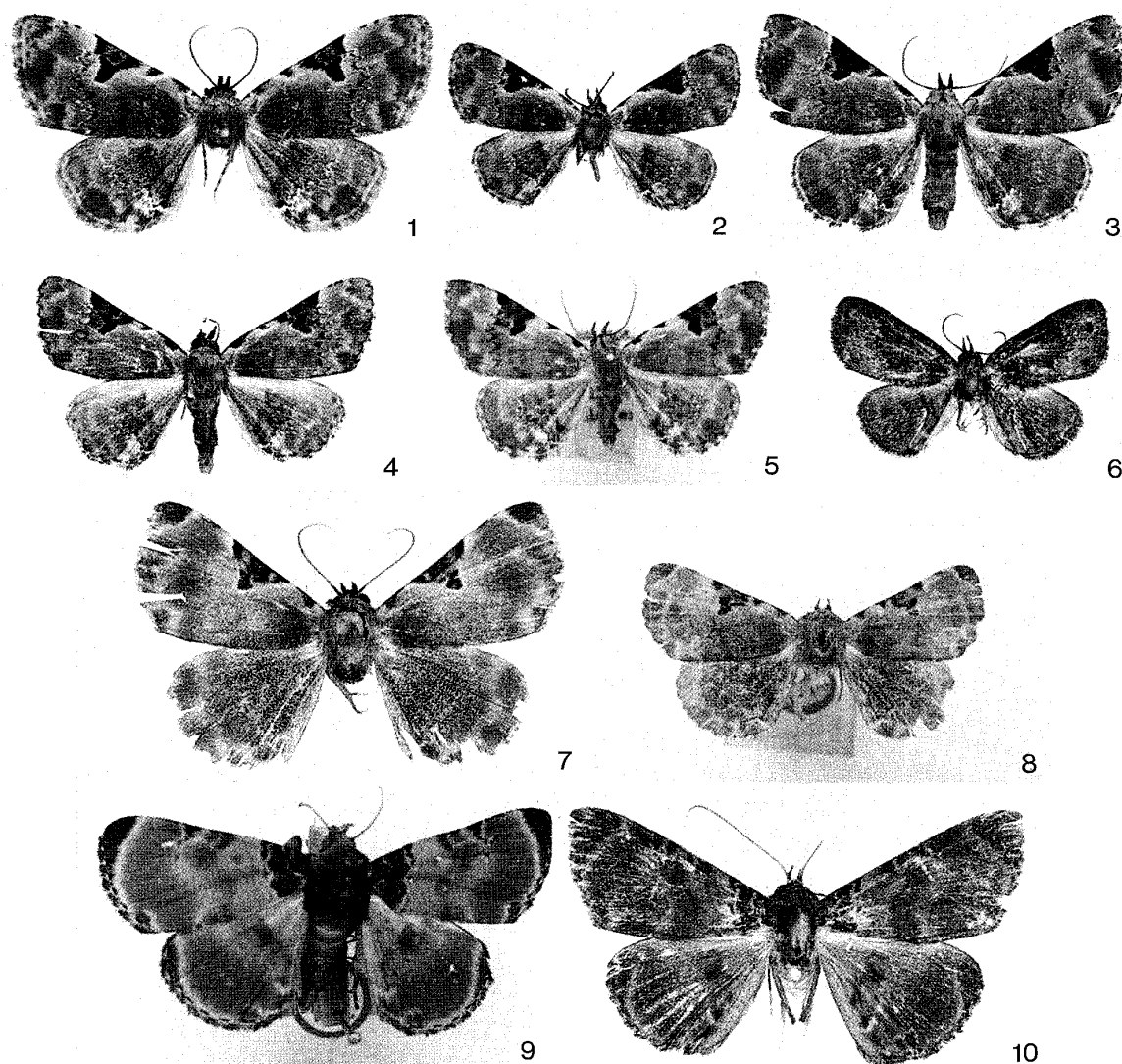
Diomea Walker, 1858 ("1857"), *List Specimens lepid. Insects Colln Br. Mus.* **13**: 1079, 1109. Type species: *Diomea rotundata* Walker, 1858 ("1857"), *ibid.* **13**: 1110, by monotypy.

Corsa Walker, 1858 ("1857"), *List Specimens lepid. Insects Colln Br. Mus.* **13**: 1079, 1101. Type species: *Corsa lignicolora* Walker, 1858 ("1857"), *ibid.* **13**: 1101, by monotypy. **Syn. nov.**

Zigera Walker, 1862, *J. Proc. Linn. Soc. (Zool.)* **6**: 182. Type species: *Zigera orbifera* Walker, 1862, *ibid.* **6**: 182, by monotypy.

Heteroscotia Bryk, 1949, *Ark. Zool.* **41** (A)1: 138. Type species: *Heteroscotia stygia* Bryk, 1949, *ibid.* **41** (A)1: 138, pl. 5, fig. 9, by original designation.

This genus contains about 20 species in Asia east of the Himalayas (Poole, 1989). The adults have generally dull and dark forewings speckled with black dots, but are so rich in variety of wing pattern that the grouping of species seems to be very difficult. Among them the following three species, *D. jankowskii* (Oberthür, 1880), *D. livida* Hampson, 1902 and *D. insulana* sp. n. have the same pattern of the forewing maculation and the same basic structure of the male genitalia, and apparently constitute a natural group within the genus. In the forewing pattern, they have rather pale gray to brown and plain ground color with a large triangular costal black marking in the middle. This marking is comprised of a black reniform accompanying two costal black bars above it and a dark shade between these bars, of which the inner one is oblique to reniform. The basal part of the costa is stained with black and a short black bar is present before the costal triangular black marking. The postmedian line is thin and serrate, black, and the subtermen is irregularly shaded with dark grayish brown. In the male genitalia, these three species share the unique character that the



Figs 1-10. *Diomea* spp. 1. *D. jankowskii* (Oberthür), ♂, Japan. 2. *D. insulana* sp. n., ♂, holotype, Japan, Okinawa I. 3. *Ditto*, ♂, paratype, Taiwan, Nantou Hsien. 4. *D. livida* Hampson, ♂, Nepal. 5. *Ditto*, ♂, syntype, Simla, BMNH. 6. *D. ferrosticta* sp. n., ♂, holotype, Myanmar, Kachin. 7. *D. eupsema* Swinhoe, ♂, Myanmar, Kachin. 8. *Ditto*, ♂, syntype, Perak, BMNH. 9. *D. lignicolora* Walker, ♀, syntype, BMNH. 10. *D. suvarnavipae* (Kobes), ♂, paratype, Sumatra.

harpes are asymmetric, the left one being longer. *D. eupsema* Swinhoe, 1902 has similar wing markings, but the forewing is broader and the male genitalia are different in having symmetric harpes. The early stages of these three species are as yet unknown, but the larva may be fungivorous, because in *D. cremata* Butler, 1878 the larva is well known to feed on fungi of the Polyporaceae in Japan (Sugi, 1987).

Diomea jankowskii (Oberthür) (Fig. 1)

Capnodes jankowskii Oberthür, 1880, *Étud. Ent.* 5: 87, pl. 9, fig. 1.

Length of forewing 13-16 mm, expanse 26-31 mm.

Male genitalia (Fig. 11). Uncus long and slender; tegumen narrow and high; valva with a

small knob-like swelling near the middle of the costa; left harpe long and its tip tapered and the right one gently curved; juxta roundish, widened below middle. Aedeagus long and slender, vesica without cornutus.

Material examined. Japan: 1 ♂, Yamanashi Pref., Uenohara, 250 m, 6. viii. 1977, H. Yoshimoto leg.; 1 ♂, Kanagawa Pref., Ohdarumi, 350 m, 14. viii. 1977, H. Yoshimoto leg.; 1 ♂, Tokyo, Okutama, Nippara, 700 m, 10. vi. 1978, H. Yoshimoto leg.

Distribution. Russia (the Primorye Territory), Korea, Japan.

***Diomea insulana* sp. nov.** (Figs 2, 3)

Male. Length of forewing 13–14 mm, expanse 23–27 mm. Very similar to *jankowskii*, but forewing more tinged with gray, with less orange tint; antemedian line obsolete; a black costal bar above antemedian line closer to the costal triangular marking; postmedian line not so excurved beyond cell as in *jankowskii*.

Male genitalia (Fig. 12). Uncus a little shorter than in *jankowskii*; valva with the costal swelling larger; left harpe much elongated and nearly equal to the tip of the valva, and right harpe bent; juxta higher and narrower than in *jankowskii*. Aedeagus as in *jankowskii*.

Holotype. ♂, Japan, Okinawa Pref., Okinawa I., Kunigami, Okuma-rindo, 26–27. v. 2000, H. Yoshimoto leg. Paratypes. 1 ♂, Taiwan, Nantou Hsien, Lushan Spa, 1,200 m, 29. iv–1. v. 1984, H. Yoshimoto leg.; 1 ♂, same locality, 30. vii–1. viii. 1984, K. Yazaki leg. Holotype will be deposited in Laboratory of Insect Systematics, National Institute of Agro-Environmental Sciences, Tsukuba.

Distribution. Japan (the Ryukyus), Taiwan.

***Diomea livida* Hampson** (Figs 4, 5)

Diomea livida Hampson, 1902, *J. Bombay nat. Hist.* **14**: 216.

Length of forewing 12–13 mm, expanse 21–25 mm.

Male genitalia (Fig. 13). Uncus long and stout; valva without costal knob-like swelling; left harpe rounded at tip and right harpe spatular; juxta roundish dorsally, and deeply cleft at bottom. Aedeagus shorter than in the two preceding species.

Material examined. 1 ♂, syntype (Fig. 5), Simla, BMNH, not dissected. 1 ♂, Nepal, Kathmandu, Godavari, 1,600 m, 1. v. 1990, M. S. Limbu leg.; 1 ♂, Nepal, Janakpur, Dolakha, Deolari 2,800 m, 25. v–7. vi. 1994, M. S. Limbu leg.

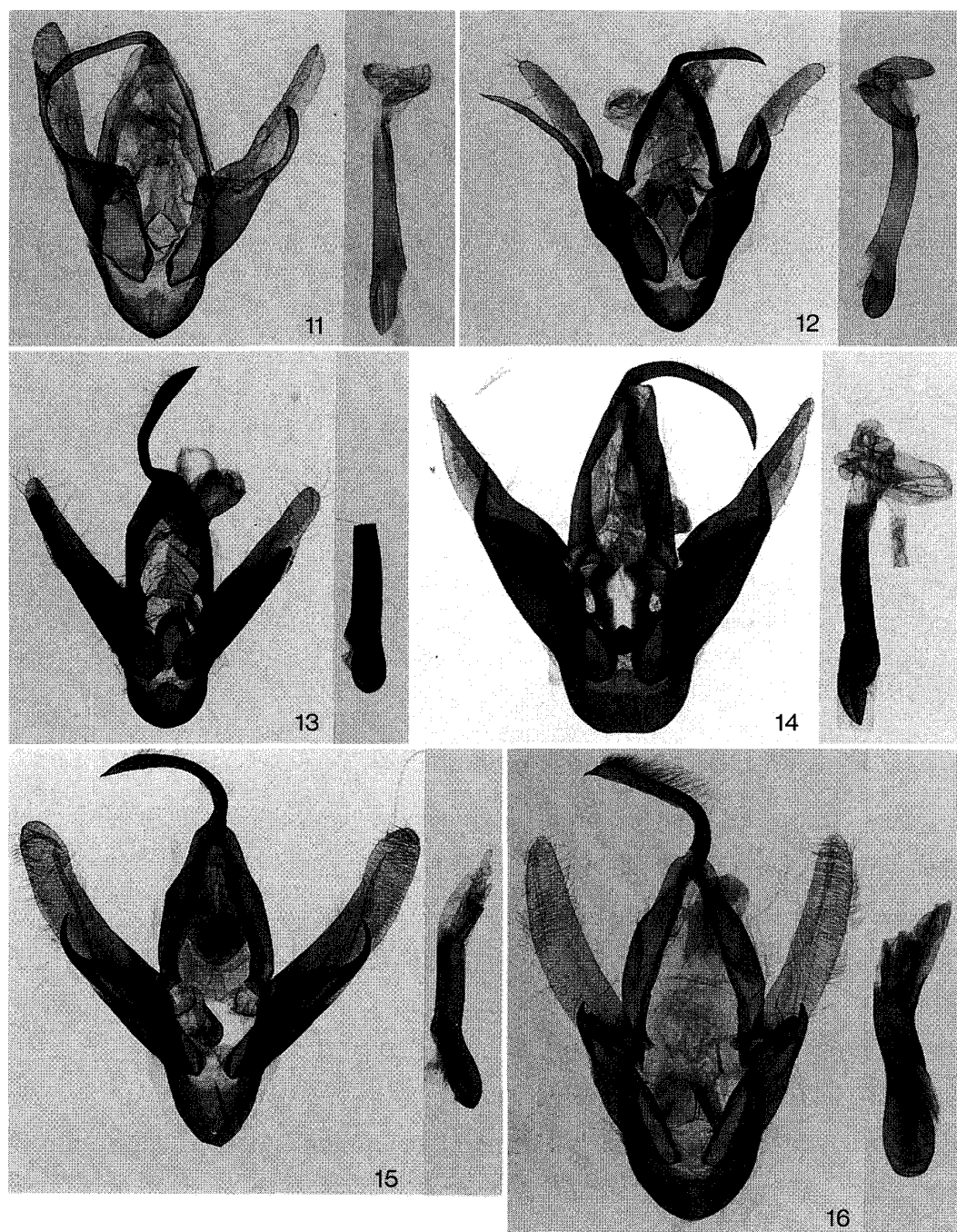
Distribution. India, Nepal.

***Diomea eupsema* Swinhoe** (Figs 7, 8)

Diomea eupsema Swinhoe, 1902, *Ann. Mag. nat. Hist.* (7) **9**: 85.

Length of forewing 16 mm, expanse 29 mm.

Male genitalia (Fig. 14). Uncus slender, tapered at tip; tegumen moderately high; valva with its costal margin a little concave before middle; harpe short and acute, angled at base; a densely setose ridge below base of costa; juxta horseshoe-shaped with its bottom protruding



Figs 11–16. Male genitalia of *Diomea* spp. 11. *D. jankowskii* (Oberthür), Japan. 12. *D. insulana* sp. n., holotype, Japan, Okinawa I. 13. *D. livida* Hampson, Nepal. 14. *D. eupsema* Swinhoe, Myanmar, Kachin. 15. *D. suvarnavipae* (Kobes), paratype, Sumatra. 16. *D. ferrosticta* sp. n., holotype, Myanmar, Kachin.

caudally; saccus wide U-shaped. Aedeagus slender.

Material examined. 1 ♂, syntype (Fig. 8), Goping, Perak, BMNH, not dissected. 1 ♂, Myanmar, Kachin, Putao, Machanbow, 500 m, 22–23. vi. 1998, K. Yazaki leg.

Distribution. Malaysia, Myanmar.

***Diomea ferrosticta* sp. n.** (Fig. 6)

♂. Length of forewing 11 mm, expanse 21 mm. Forewing dark blackish brown, a pale bluish gray shade beyond postmedian line; orbicular represented by an ill-defined black bar. Hindwing with inner margin widely suffused with ferrous orange, its outer side defined by a whitish gray line.

Male genitalia (Fig. 16). Uncus long, a little swollen before tip, which is pointed; tegumen narrow; valva with both margins nearly parallel, roundish at tip; harpe very short; a small setose knob below harpe; juxta triangular; saccus roundish. Aedeagus thick and short, weakly curved.

Holotype. ♂, Myanmar, Kachin, Putao, Mt Nwe Zin, 750 m, 16–20. vi. 1998, K. Yazaki leg. Holotype will be deposited in Laboratory of Insect Systematics, National Institute of Agro-Environmental Sciences, Tsukuba.

Distribution. Myanmar.

The following two are apparently sister species. The ground color of both wings is light to dark brown with a reddish to purplish tinge. Forewing has a wide and black basal marking and a wide and black apical band, which is edged inside with pale yellowish brown and continues narrowing to tornus, and has two costal black bars. Hindwing has a similar terminal black band widened around apex.

***Diomea lignicolora* (Walker), comb. n.** (Fig. 9)

Corsa lignicolora Walker, 1858 “not 1857”, *List Specimens lepid. Insects Colln Br. Mus.* **13**: 1101.

Forewing pale grayish brown, with apex roundish.

Material examined. 1 ♀, syntype (Fig. 9), BMNH, not dissected.

Distribution. Sri Lanka, China (Jiangxi) (Chen, 1985, 1999), Sikkim (Hampson, 1895).

***Diomea suvarnavipae* (Kobes) (Fig. 15)**

Zigera suvarnavipae Kobes, 1983, *Heterocera sumatr.* **2**: 14, figs 1N, O, 8.

Very similar to the preceding species, but the wing coloration is deeper reddish brown with a strong purplish tint. In the Sumatran specimens, the forewing is acuter at apex than in *lignicolora*.

Material examined. Sumatra: 1 ♂, paratype, Aek Tarum, Gunung Malayu, 9. x. 1983, Diehl leg.; Nepal: 1 ♂, Kathmandu, Godavari, 1,600 m, 22. vii. 1990; 2 ♂, Mechi, Ilam, Godok, 400 m, 11–18. vi. 1993, M. S. Limbu leg. Taiwan: 1 ♀, Sun Moon Lake, 2. viii. 1978, T. Niizato leg.

The Nepalese specimens before me are not so dark as the Sumatran ones, but enough darker than the preceding species and were determined as *suvarnavipae* (see Haruta, 1994). But, the wing shape is more roundish as in Sri Lankan *lignicolora*. A Taiwanese female has similarly intermediate coloration and a roundish forewing. The male genitalia (Fig. 15) of the Nepalese and Sumatran specimens are completely identical, and at the present, I consider that they represent *suvarnavipae*. But this determination should be confirmed in future through comparison of the male genitalia with Sri Lankan specimens of *lignicolora*.

Distribution. Sumatra (Kobes, 1983), India (Wang, 1995), Nepal (Haruta, 1994), Taiwan (Sugi, 1992).

Although the type species of *Diomea* and *Corsa* are congeneric, I think that all species now placed in *Corsa* should not be transferred into *Diomea* automatically. Among the six species of *Corsa* listed by Poole (1989), *Bleptina petrina* Butler, 1879 has a strong affinity to *Panilla dispila* (Walker, 1865), type species of *Panilla* Moore, 1885, in both wing maculation and the male genitalia, and I here place it in *Panilla*.

***Panilla petrina* (Butler), comb. rev.**

Bleptina petrina Butler, 1879, *Illustr. typical Specimens Lepid. Heterocera Colln Br. Mus.* **3**: 64, pl. 56, fig. 3; Matsumura, 1905, *Cat. Insect. jap.* **1**: 111.

Panilla petrina: Warren, 1913, in Seitz, *Macrolepid. Wld* **3**: 370; Matsumura, 1931, *6000 illust. Insects Japan-Empire*: 826, no. 973 (fig.); Inoue & Sugi, 1958, in Inoue, *Check List Lepid. Japan* **5**: 585.

Corsa petrina: Sugi, 1982, *Moths Japan* **1**: 888, **2**: 401, pl. 219, figs 20, 21, pl. 356, fig. 5; Poole, 1989, in Heppner, *Lepid. Cat. (N. S.)* **118**: 276.

Hyposada otoensis Marumo, 1920, *J. Coll. Agric. Tokyo Imp. Univ.* **6**: 262, pl. 20, fig. 2; Inaba, 1933, *Kontyû* **6**: 208.

Corsa otoensis: Inoue & Sugi, 1958, in Inoue, *Check List Lepid. Japan* **5**: 592; Ogata, 1958, *Icones Heterocerorum japonicorum Color. nat.* [**2**]: 182, pl. 116, fig. 2436.

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References

- Chen, Y. -X., 1985. Lepidoptera: Noctuidae (4). *Economic Insect Fauna of China* **32**: xiv, 167, 15 pls. Science Press, Beijin. (In Chinese).
- , 1999. Lepidoptera Noctuidae. *Fauna Sinica (Insecta)* **16**. lxxiii, 1,596 pp., 68 pls. Science Press, Beijing. (In Chinese).
- Hampson, G. F., 1895. *The Fauna of British India, including Ceylon and Burma (Moths)* **3**. xxviii, 546 pp. Taylor and Francis, London.
- Haruta, T., 1994. Noctuidae: Catocalinae and Ophiderinae. In Haruta, T. (Ed.), *Moths of Nepal*, part 3. *Tinea* **14** (Suppl. 1): 140–153, pls 87–91.
- Kobes, L. W. R., 1983. Weitere 6 neue Arten aus dem Regenwald (Lep., Noctuidae: Acronictinae, Sarrothripinae, Ophiderinae). *Heterocera sumatr.* **2**: 9–15.
- Poole, R. W., 1989. Noctuidae. In Heppner, J. B. (Ed.), *Lepid. Cat. (N. S.)* **118**: [i]–xii, 1–1314. Brill/Flora & Fauna Publ., Leiden.
- Sugi, S., 1987. A summary: general views on immature stages and life-histories of larger moths in Japan. In Sugi, S. (Ed.), *Larvae of larger Moths in Japan*: 267–301. Kodansha Co. Ltd, Tokyo.
- , 1992. Catocalinae. In Heppner, J. B. & H. Inoue (Eds), *Checklist. Lepid. Taiwan* **1** (2): 175–183.
- Wang, H. Y., 1995. Noctuid moths and it's allied species from the neighboring countries. *Guide Book to Insects in Taiwan* **14**: 1–216. Taipei. (In Chinese).
- Yoshimoto, H., 1994. Notes on *Caduca albopunctata* (Walker) (Noctuidae, Ophiderinae) collected at Ishigaki-jima I., the Ryukyus. *Japan Heterocerists' J.* (178): 33–34 (in Japanese).

摘 要

日本, 台湾, ミャンマー産の *Diomea* の 2 新種とオオトウアツバの所属 (吉本 浩)

Diomea Walker, 1858 と *Corsa* Walker, 1858 の模式種が同属の可能性の高いことは以前にも触れたことがあるが (吉本, 1994), 本報では改めてこれらを互いにシノニムと認め, その属名には, 同じ日付で公表された *Diomea* と *Corsa* の 2 つの内, *Diomea* を残すこととした. ただし, 現在 *Corsa* に置かれる種は, 模式種の *lignicolora* Walker 以外は *Diomea* とは無縁で, 別の属に配置すべきと考えられる. 特に, 日本のオオトウアツバは, その斑紋や♂交尾器の形状からも *Diomea* とは程遠く, むしろ斑紋や♂交尾器の類似性などから, *Panilla* Moore, 1885 に置くのが穏当である. なお, 本報では *Diomea* の次の 2 新種も記載した.

Dimeia insulana sp. n. ミナミマエヘリモンクチバ (新称)

D. jankowskii (Oberthür) マエヘリモンクチバやインド, ネパールに産する *D. livida* Hampson に酷似するが, ♂交尾器が異なる. 模式産地は沖縄本島北部の国頭村. 台湾にも産する.

Diomea ferrosticta sp. n.

後翅内縁が幅広く橙褐色を呈する種で, 属内に近似のものはいない. 模式産地はミャンマー北部の Kachin 県 Putao.

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